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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,465	12/14/2001	William L. Lundy	Perox-Chelant	3617
7590 11/18/2003			EXAMINER	
John G. Premo, Esq. 110 51st Place Western Springs, IL 60558			KRECK, JOHN J	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,465

Applicant(s)

LUNDY, WILLIAM L.

Examiner

John Kreck

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

The amendments dated 8/4/03 and 9/3/03 have been entered.

Claims 1, 2, 4-8, and 10-15 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 10, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pignatello, et al. (U.S. Patent number 6,160,194) in view of Tarr, et al. (U.S. Patent number 6,459,011).

Pignatello teaches the method of decontaminating soil and groundwater including the steps of treating with an effective amount of an aqueous solution having a pH at least 7 (see col. 4, lines 60-63, which indicates that soil can have a pH of between 3.5 and 8; and col. 3, line 31, which indicates that the treatment fluid is at the pH of the soil) which contains a peroxide (H₂O₂) and a water soluble aminopolycarboxylate chelating agent (NTA—col. 3, line 54) for a time sufficient to have the chelating agent chelate at least one of the metals in the soil (note that Fe(III) present in the soil is explicitly disclosed in col. 4, lines 24-26); reacting the chelated metals with the peroxide to catalytically convert the peroxide to an oxidizing agent; and then contacting the

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contaminants in the soil with the oxidizing agent to oxidize the contaminants to environmentally safe compounds. As noted, Pignatello teaches Fe(III) in the soil is chelated, and thus does not teach the divalent metal in the soil. Pignatello, does, however, teach that divalent iron is just as effective (col. 15, lines 53-58).

Tarr teaches (col. 6, lines 31-34) that in a similar process, sufficient divalent iron is present in the soil to be chelated.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Pignatello process to have practiced it in soils having divalent iron, thus having the chelating agent chelate divalent iron as called for in claim 1; since divalent iron is often present in contaminated soil.

With regards to claim 2, Pignatello and Tarr both teach iron.

With regards to claim 10; Pignatello teaches a soil pH of 8, and teaches that the pH of the solution is to be adjusted to the soil pH.

With regards to claims 14 and 15; Pignatello teaches the process including treating soil with peroxide and chelated divalent metal which converts the peroxide into an oxidizing agent which oxidizes the contaminants. Pignatello teaches the improvement including treating the soil with peroxide and a chelating agent capable of chelating trivalent metals present in the soils and then chelating the divalent metals in the soil. Pignatello teaches Fe(III) in the soil is chelated, and thus does not teach the divalent metal in the soil.

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Tarr teaches (col. 6, lines 31-34) that in a similar process, sufficient divalent iron is present in the soil to be chelated.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Pignatello process to have practiced it in soils having divalent iron, thus having the chelating agent chelate divalent iron as called for in claim 14; since divalent iron is often present in contaminated soil.

With regards to claim 15, Pignatello teaches the aminopolycarboxylate chelate.

2. Claims 5-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pignatello and Tarr as applied to claim 1 above, and further in view of Watts (U.S. Patent number 5,741,427).

With regards to claim 5, Pignatello teaches the concentration of and 0.6 to 4.5 M/L H₂O₂, but fails to teach the concentration of 0.03-1.5M/L chelant.

Watts teaches the concentration of about 0.3 to 1.3 moles/liter of chelating agent (see col. 10, line 15) in a similar process; it is apparent that the amount of reagent is largely a matter of engineering design, based on environmental conditions.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Pignatello process to have the concentration of 0.03-1.5M/L chelant as called for in claim 5, based on the environmental conditions.

With regards to claims 6-8, Pignatello fails to teach the alkyleneamine polycarboxylate and the blend.

Watts teaches that several alkyleneamine polycarboxylate chelants are art recognized equivalents to the NTA taught by Pignatello.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Pignatello process to have included a blend of alkyleneamine polycarboxylate as called for in claims 6 and 8.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Pignatello process to have included EDTA as called for in claim 7.

An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982).

"It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

Regarding claim 13: Pignatello fails to teach the metal peroxide.

Watts teaches that metal peroxides (Calcium or sodium—col. 4, lines 20-24) are useful for hydrocarbon contaminated zones.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to have further modified the Pignatello process to have included metal peroxide as called for in claim 13, since they are useful for hydrocarbon contaminated zones.

Allowable Subject Matter

3. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

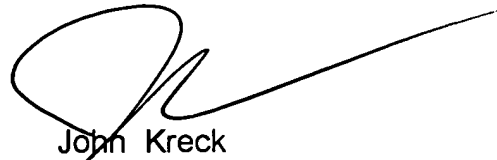
4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is (703)308-2725. The examiner can normally be reached on M-F 5:30 am - 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703)308-2978. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9326.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-4177.

A handwritten signature in black ink, appearing to read 'John Kreck', with a long horizontal stroke extending to the right.

John Kreck
Examiner
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JJK